

Carteret County Wind Ordinance

ARTICLE 3. WIND ENERGY FACILITIES

Sec. 3-1 General.

A Small System Wind Energy Facility is considered to be an accessory use and does not require approval of a Wind Energy Permit Application. However, such a Small System shall comply with the dimensional requirements of this Article plus any other applicable ordinances.

A temporary pole or tower may be erected to use an anemometer or other meteorological measuring devices to test the wind conditions at that site and does not require approval of a Wind Energy Permit Application. However, each such temporary pole or tower shall comply with the dimensional requirements of this Article plus any other applicable ordinances. A copy of a FAA determination report as a result of filing the FAA Form 7460-1, Notice of Proposed Construction or Alteration of an Object that may Affect the Navigable Airspace, shall be submitted prior to submission of any building permits for such a temporary pole or tower.

Before a building permit may be submitted for a Large System Wind Energy Facility or a Utility-scale Wind Energy Facility, a Wind Energy Permit Application must first be approved by the Planning Commission.

Sec. 3-2 Permit application information.

Throughout the permit process, the applicant shall promptly notify the Carteret County Planning and Development Department of any changes to the information contained in the permit application. Changes to the pending application that do not materially alter the initial site plan may be adopted administratively.

The application for a Large System or Utility-scale Wind Energy Facility shall contain at least the following information:

3-2.1 A narrative overview of the project, including the generating capacity of the Wind Energy Facility.

3-2.2 A tabulation describing the:

- A. Specific number, types and height of each wind turbine to be constructed, including their generating capacity.
- B. Dimensions and respective manufacturers.
- C. Appurtenant structures and/or facilities.

3-2.3 Identification of the property on which the proposed Wind Energy Facility will be located.

3-2.4 A site plan showing the:

- A. Planned location of each wind turbine.
- B. All property lines within one mile of the property lines of the proposed site.
- C. Setback lines.
- D. Access road and turnout locations.
- E. Substation(s).
- F. Electrical cabling from the Wind Energy Facility to the substation(s) and from the substation(s) to where the electricity will leave the site.
- G. Ancillary equipment, buildings, and structures, including permanent meteorological towers.
- H. Associated transmission lines.
- I. Conservation Areas, including natural areas protected by law, such as wetlands that meet the definition in the Clean Water Act; shore land areas; water bodies; riparian buffers; populations of endangered or threatened species, or habitat for such species; archaeological sites, cemeteries, and burial grounds; important local historic sites; existing healthy, native forests consisting of at least one acre of contiguous area; individual existing healthy trees that are at least 100 years old; other significant natural features and scenic viewsheds; existing trails or corridors that connect the tract to neighboring areas.
- J. Location of all structures and properties within the geographical boundaries of any applicable setback.
- K. A landscaping plan that shows proposed screening and buffering of all buildings and other non-tower structures on the site or sites.

3-2.5 For Utility-scale Wind Energy Facilities, an Environmental Impact Study (EIS) shall be submitted that includes review comments from all applicable state and federal agencies, including at least the:

- A. NC Department of Environment and Natural Resources,

- B. NC Department of Health and Human Services,
- C. NC Department of Transportation,
- D. NC Wildlife Resources Commission,
- E. US Fish and Wildlife Service, and
- F. US Army Corps of Engineers.

The EIS shall cover, at a minimum, the potential impacts on the human population (such as audible and inaudible sound, shadow flicker and blade glint, viewsheds, blade throw, hurricane resistance, etc.), as well as the animal populations, land, water (including impacts on groundwater resources due to foundations, pilings, etc.), and air. The study area shall include at least the 2 miles surrounding the proposed wind turbines.

3-2.6 Other relevant studies, reports, certifications, and approvals as may be reasonably requested by Carteret County to ensure compliance with this Ordinance.

3-2.7 Decommissioning plan that describes the:

- A. Anticipated life of the wind energy facility.
- B. Estimated decommissioning costs (in current dollars), including contingency costs of at least 10% (ten percent).
- C. Method for ensuring that funds will be available for decommissioning and restoration.
- D. Plan for decommissioning the wind energy facility, including disposing of the structural and turbine materials and restoring the site.

3-2.8 The signature of the property owner(s) and the facility owner/operator.

3-2.9 The applicant shall certify that the proposal is for an International Electrical Congress (IEC) Class S wind turbine that is designed or will be designed to meet the NC Building Code. A Stand-down Plan for High Wind Conditions shall be included, along with any other materials needed for the certification.

3-2.10 A verifiable means of determining if the decommissioning plan needs to be activated due to abandonment, such as a letter from the electric utility stating that it will notify the Planning Department within 10 (ten) business days if electricity is not received from the Wind Energy Facility for any 30 (thirty) consecutive days.

3-2.11 If any portion of a proposed Large System or Utility-scale wind energy facility is to be located within 2,000 feet of the right-of-way of any Federally designated or State-designated Scenic Route or By-way, the applicant shall describe the proposed measures to be taken to minimize the visual impact of the proposed facility (including shadow flicker and blade glint) upon a Scenic Route or By-way.

3-2.12 If any portion of a proposed wind energy facility is to be located within 20,000 feet of the runway surface of the Michael J. Smith Airport, Bogue Airfield, and/or Atlantic Field, the applicant must demonstrate FAA approval prior to submission of any building permits. This includes showing proof of filing an FAA Form 7460-1, Notice of Proposed Construction or Alteration of an Object that may Affect the Navigable Airspace, in accordance with FAA Advisory Circular 70/7460-2k, as amended. Such notice shall be included with the application.

A copy of a FAA determination report as a result of filing the FAA Form 7460-1, Notice of Proposed Construction or Alteration of an Object that may Affect the Navigable Airspace, shall be submitted prior to submission of any building permits.

The Applicant shall not install any lighting that exceeds the minimum required by the FAA. Where alternatives to strobe lighting are available from the FAA, strobe lighting shall be the last resort and only if required by the FAA.

The Applicant shall demonstrate compliance with the County's Airport Height Ordinance. If appropriate, as determined by the Planning Director or designee, the Applicant shall provide a Department of Defense release or approval for the construction of the wind energy facility in restricted air space.

3-2.13 A Maintenance Plan that details the quarterly, storm follow-up, and non-scheduled maintenance actions that will be taken to keep the Wind Energy Facility operating quietly, efficiently, and non-polluting of the land, water, and air, including (but not limited to) the minimization of loud or high-pitched sound, low frequency sound or vibration, blade glint, and fluid leaks.

The Applicant shall conduct preventive maintenance inspections in January, April, July, October, and after any wind event defined as a tropical storm or Category 1-5 Hurricane. Each inspection shall look for such things as metal fatigue, nut loosening, and other potential failures that might impact the public health and safety, as well as the items detailed in the Maintenance Plan. Such inspection reports shall be provided to the Planning Director or designee within 30 (thirty) days of the inspection.

Sec. 3-3 Dimensional requirements.

To provide for at least minimal operational safety for persons and property located outside of a wind farm, all wind energy facilities shall comply with the minimums and maximums contained in the following tabulation:

TABLE INSET:

Type of Wind Energy Facility	Minimum Wind Turbine Setback from Any Property Line, Public or Private R-O-W, and/or Access Easement	Maximum Wind Turbine Height*
Small System (up to 25 kW) Attached to a house	None	60 feet
Small System (up to 25 kW) Not attached to a house	1 foot for each foot of height from any property line and 1 foot for each foot of height from any vacant or occupied dwelling unit on the same property but If the Planning Director or designee determines there will be no significant impact on abutting properties or those across a stream, lake, or other body of water, no such setback is required from the waterward property line for a turbine placed in a body of water or on a dock or pier.	75 feet
Large System (more than 25 kW and less than 1,000 kW)	1,300 feet	199 feet
Utility-scale (1,000 kW or more)	6 feet for each foot of height	550 feet
* Height is measured from the lowest adjacent grade to the highest point of the structure, including any attachments, such as a lightening protection device or a turbine rotor or tip of the turbine blade when it reaches its highest elevation.		

Such minimum setbacks for a wind energy facility shall be measured from its outermost extension (whether blade tip, nacelle/turbine housing, or tower/pole edge) that is nearest the subject property line, public or private R-O-W, and access easement. To measure maximum height, see the Definitions.

No portion of any wind turbine blade shall be closer than 25 feet to any portion of the ground that surrounds any wind energy facility.

A temporary pole or tower may be erected to use an anemometer or other meteorological measuring devices to test the wind conditions at that site. The temporary pole or tower may be any height but it must be set back from all property lines, rights-of-way, and access easements by a distance that is equal to or greater than its height. The temporary pole or tower may not have any signs; may not be illuminated, except as required by the FAA or Department of Defense; and must be removed within 2 (two) years of the date that it is erected.

Sec. 3-4 Waivers.

If a Wind Energy Facility parcel contains no vacant or occupied dwelling units, the owner may sign a waiver of the setback requirements without the prior approval of the Planning Commission. If a Wind Energy Facility parcel contains one or more vacant and/or occupied dwelling units, the owner may sign a waiver of the setback requirements only after receiving the express approval of the Planning Commission. The signed waiver must state

that the waiver period shall expire when the Planning Director or designee agrees in writing that the Wind Energy Facility has been properly decommissioned.

Any signed waiver is not effective until it is recorded with the Carteret County Register of Deeds and a copy of the recorded waiver has been provided to the Planning Director within 5 business days of that recording. Such waiver shall be provided to subsequent owners and/or renters of the property during the waiver period on a Disclosure Form provided by the Planning Director or designee.

Sec. 3-5 Installation and design.

3-5.1 The installation and design of a Large System or Utility-scale Wind Energy Facility shall conform to applicable industry standards, including those of the American National Standards Institute.

3-5.2 The electrical connection system from the wind turbines to a collection point or substation shall, to the maximum extent possible, be placed underground. The power from that collection point or substation may use overhead transmission lines, if approved by the Planning Director or designee.

3-5.3 Road Analysis: The applicant shall reimburse the NC DOT and/or County (as appropriate) for any and all repairs and reconstruction to roads that are necessary due to the construction or decommissioning of the Large System or Utility-scale Wind Energy Facility. A qualified independent third party or other qualified person, agreed to by the NC DOT and/or County (as appropriate) and the applicant, shall be hired to preinspect the roadways to be used during construction and/or decommissioning. This third party shall be hired to evaluate, document, and rate the roads condition prior to construction or decommissioning of the Large System or Utility-scale Wind Energy Facility, and again 30 days after the Wind Energy Facility is completed or removed.

A. Any road damage during construction that is done by the applicant and/or one or more of its contractors or subcontractors that is identified by this third party shall be repaired or reconstructed to the satisfaction of the NC DOT and/or County (as appropriate) at the applicant's expense prior to the final inspection. In addition, the applicant shall pay for all costs related to work of this third party preinspection prior to receipt of the final inspection.

B. The surety for removal of a decommissioned wind energy facility shall not be released until the Planning Director or designee is satisfied that any road damage that is identified by this third party during and after decommissioning that is done by the applicant and/or one or more of its contractors or subcontractors has been repaired or reconstructed to the satisfaction of the NC DOT and/or County (as appropriate) at the applicant's expense. In addition, the applicant shall pay for all costs related to work of this third party's inspection prior to receipt of the release of the surety.

3-5.4 The Large System or Utility-scale Wind Energy Facility shall:

A. Be a non-obtrusive color (such as light blue, off-white or light gray) that blends with the sky, as determined by the Planning Director or designee.

B. Not be artificially lighted, except to the extent required by the Federal Aviation Administration or other applicable authority that regulates air safety.

C. Not contain any signs or other advertising (including flags, streamers or decorative items or any identification of the turbine manufacturer, facility owner and operator). This does not include any identification plaques that might be required by the electric utility or governmental agency.

D. Be maintained to minimize noise from the turbine, any engines or motors, and the blades or propellers.

E. Be sited and operated so as to not interfere with television, internet service, telephone (including cellular and digital), microwave, satellite (dish), navigational, or radio reception in neighboring areas. The applicant and/or operator of the facility shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or correct any problems; including relocation or removal of the facility caused or exacerbated by the operation of such equipment and any and all related transmission lines, transformers, and other components related thereto.

F. Have a leak containment system for oil, hydraulic fluids, and other non-solids that is certified by an expert (such as an engineer, turbine manufacturer, etc.) acceptable to the Planning Director or designee that all such fluids will be captured before they reach the ground. The applicant shall pay the cost of the expert.

Sec. 3-6 Minimization of noise and shadow flicker impacts by a large system or utility-scale wind energy facility.

3-6.1 The applicant shall provide a shadow flicker and blade glint report for each proposed wind energy facility. The report shall:

- A. Evaluate the worst case scenarios of wind constancy, sunshine constancy, and wind directions and speeds.
- B. Map and describe the zones where shadow flicker and blade glint will likely be present within the project boundary and a one-mile radius beyond the project boundary.
- C. Identify existing residences and the locations of their windows, locations of other structures, wind speeds and directions, and existing vegetation and roadways.
- D. Calculate the locations of shadow flicker caused by the proposed project and the expected durations of the flicker at these locations, including outdoor viewsheds.
- E. Calculate the total number of hours per year of flicker at all locations, including the outdoor viewshed.
- F. Identify problem zones within a one-mile radius where shadow flicker will interfere with existing or future residences and roadways and describe proposed measures to mitigate these problems.

3-6.2 Based upon the findings of the report, the wind energy facility shall be designed so that shadow flicker or blade glint will not fall on or in any roadway or occupied property.

A. Shadow flicker or blade glint that falls on a portion of an occupied property is acceptable only under the following circumstances:

- 1. The flicker or glint does not exceed 120 seconds per day for 7 consecutive days, with a 20-hour maximum per year and
- 2. The flicker or glint falls more than 100 feet from an existing residence or business property.

B. Shadow flicker or blade glint that falls on a roadway is acceptable only under the following circumstances:

- 1. The traffic volumes are less than 500 vehicles per day on the roadway and
- 2. The flicker or glint shall not fall onto an intersection of public roads.

If shadow flicker or blade glint exceeds any of the conditions listed in this Section, the source wind energy facility shall be shut down until the flicker or glint problem is remedied. Each such occurrence shall be a separate violation of this ordinance and the penalties shall be cumulative.

3-6.3 No Large System or Utility-scale wind energy facility or any generators, equipment, or apparatus shall produce noise above 45 (forty-five) decibels for more than 5 (five) consecutive minutes, as measured at any property line. Each such occurrence shall be a separate violation of this ordinance and the penalties shall be cumulative.

If noise levels exceed 80 (eighty) decibels for more than 24 consecutive hours, as measured at any property line, the applicant and/or owner shall shut down the wind energy facility within 1 (one) business day of being informed to do so by the Planning Director or designee. The facility shall remain shut down until it can be demonstrated to the satisfaction of the Planning Director or designee that the facility can be operated so as to not exceed 45 (forty-five) decibels for more than 5 (five) consecutive minutes, as measured at any property line.

Sec. 3-7 Decommissioning or abandonment.

3-7.1 If the chief building official condemns any portion of a Large System or Utility-scale Wind Energy Facility or if no electricity is generated for 3 consecutive months, the Wind Energy Facility owner and/or property owner shall have 3 months to remedy the safety issues or complete the decommissioning of the Wind Energy Facility, according to the approved plan.

The Planning Commission may grant extensions of time for repair and/or maintenance, for good cause, such as the need to back-order parts that are not currently available from the manufacturer or supplier or the need to repair a Large System or Utility-scale Wind Energy Facility damaged by a hurricane.

3-7.2 Decommissioning shall include the complete removal of wind turbines, buildings, cabling, electrical components, roads, and any other associated facilities and/or structures, including belowground items such as foundations and power lines.

3-7.3 Disturbed earth shall be graded and reseeded, unless the landowner requests in writing that the access roads or other land surface areas not be restored.

Sec. 3-8 Surety for removal of large system or utility-scale wind energy facilities, if decommissioned or abandoned.

The applicant shall place with the county an acceptable letter-of-credit, bond, or other form of security that is sufficient to cover the cost of removal at the end of the facility's useful life, as detailed in the decommissioning plan. Such surety shall be at least \$200,000 for each wind turbine. The Planning Director or designee may approve a reduced surety amount that is not less than 150% (one hundred fifty per cent) of a cost estimate that is certified by an Engineer, salvage company, or other expert suitable to the Planning Director or designee. The surety shall be

used by the county to assure the faithful performance of the terms and conditions of this law and conditions of this ordinance, as well as to serve as a removal security to prevent the taxpayers from bearing the cost of removal in the event of the abandonment or cessation of use for more than 90 consecutive days. The full amount of the bond or security shall remain in full force and effect until any and all necessary site restoration is completed to restore the site to a condition comparable to that which existed prior to the facility, as determined by the Planning Director or designee.

Sec. 3-9 Security of large system or utility-scale wind energy facilities.

3-9.1 All wind energy facilities shall be located, fenced, or otherwise secured so as to prevent unauthorized access.

3-9.2 All wind energy facilities shall be made inaccessible to individuals and constructed or shielded in such a manner that they cannot be climbed or collided with.

3-9.3 Wind energy facilities shall be installed in such a manner that they are readily accessible only to persons authorized to operate or service them.

Sec. 3-10 Reservation of authority to inspect large system or utility-scale wind energy facilities.

In order to verify that the holder of a permit for a wind energy facility and any and all lessees, renters, and/or licensees of it, have placed and constructed such facilities in accordance with all applicable technical, safety, fire, building, and zoning codes, laws, ordinances and regulations and other applicable requirements, the county may inspect all facets of said permit holder's, renter's, lessee's or licensee's placement, construction, modification, and maintenance of such facilities, including all towers, buildings, and other structures constructed or located on the site.

Sec. 3-11 Liability insurance.

3-11.1 The holder of a permit for a Large System or Utility-scale wind energy facility shall secure and maintain for the duration of the permit public liability insurance, as follows:

A. Commercial general liability covering personal injuries, death and property damage. \$1,000,000 per occurrence -- \$2,000,000 aggregate, which shall specifically include the county and its officers, councils, employees, committee members, attorneys, agents and consultants as additional named insureds.

B. Umbrella coverage. \$3,000,000.

3-11.2 The insurance policies shall be issued by an agent or representative of an insurance company licensed to do business in the State and with at least a Best's rating of "A".

3-11.3 The insurance policies shall contain an endorsement obligating the insurance company to furnish the county with at least 30 days' prior written notice in advance of a cancellation.

3-11.4 Renewal or replacement policies or certificates shall be delivered to the county at least 15 days before the expiration of the insurance that such policies are to renew or replace.

3-11.5 No more than 15 days after the grant of the permit and before construction is initiated, the permit holder shall deliver to the county a copy of each of the policies or certificates representing the insurance in the required amounts.

3-11.6 A certificate of insurance that states that it is for informational purposes only and does not confer rights upon the county shall not be deemed to comply with this ordinance.

Sec. 3-12 Indemnification.

Any application for a Large System or Utility-scale wind energy facility on county property shall contain an indemnification provision. The provision shall require the applicant to at all times defend, indemnify, protect, save, hold harmless, and exempt the county, and its officers, councils, employees, committee members, attorneys, agents, and consultants from any and all penalties, damages, costs, or charges arising out of any and all claims, suits, demands, causes of action, or award of damages, whether compensatory or punitive, or expenses arising therefrom, either at law or in equity, which might arise out of, or are caused by, the placement, construction, erection, modification, location, products performance, use, operation, maintenance, repair, installation, replacement, removal, or restoration of said facility, excepting, however, any portion of such claims, suits, demands, causes of action or award of damages as may be attributable to the negligent or intentional acts or omissions of the county, or its servants or agents. With respect to the penalties, damages or charges referenced

herein, reasonable attorneys' fees, consultants' fees, and expert witness fees are included in those costs that are recoverable by the county.

An indemnification provision will not be required in those instances where the county itself applies for and secures a permit for a Large System or Utility-scale wind energy facility.